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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/065,745

Applicant(s)

RJAVEC, NENAD

Examiner

Peter K. Huntsinger

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/4/09 have been fully considered but they are not persuasive.

The Applicant argues on page 7 and 8 of the response in essence that: The affidavit executed by Reinhard H. Hohensee shows that as of the time of filing one skilled in the art would recognize that the Appellant was in possession of the invention, including the limitation "said sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors."

a. The affidavit fails to provide that based on Applicant's specification, the sequencer would inherently remained unchanged by the additions and removals of connected and disconnected raster image processors. Each claim limitation must be expressly, implicitly, or inherently supported in the originally filed disclosure. When an explicit limitation in a claim "is not present in the written description whose benefit is sought it must be shown that a person of ordinary skill would have understood, at the time the patent application was filed, that the description requires that limitation." *Hyatt v. Boone*, 146 F.3d 1348, 1353, 47 USPQ2d 1128, 1131 (Fed. Cir. 1998). The affidavit states that "When RIP processors 22a - n are added to, or removed from, the controller 10, configuring the controller 10 updates this number N and the respective addresses, e.g., the sequencer may be designed to update automatically, However, updating the Sequencer 21 configuration does not change the Sequencer 21, i.e., it does not

require making structural changes to the Sequencer 21" While "the sequencer may be designed to update automatically", the affidavit does not support that the sequencer is required to remain unchanged. Therefore, the affidavit fails to overcome the 35 U.S.C. 112 rejections.

2. Applicant's arguments with respect to claims 1-9, 12 and 13 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claims 12 and 13 are objected to because of the following informalities:

For claim 12, replace line 1 with "An apparatus as in claim 1, wherein ~~the~~ a configuration of said pipeline of". Claim 13 includes similar language. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claims 1-9, 12 and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 5, 6 and 9 include the limitation "said sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors". This limitation is not described in the applicant's specification.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry Patent 6,825,943 in view of Fujii Patent 6,315,390 and Motamed Patent 6,327,050.

Referring to **claim 1**, Barry '943 discloses an apparatus comprising:

a pipeline of elements processing print control data and having:

a plurality of raster image processors, each of which has an input port receiving parsed page data (Rip engines 150, 152, and 154 of Fig. 1b, col. 1, lines 41-50); and

a sequencer (instruction operator for job file 114 of Fig. 1a) which has an output port networked and communicating with, and directly connected to, the input ports of said plurality of raster image processors (col. 4, lines 34-40) and an input port receiving a print data stream (col. 3, lines 19-22), said sequencer monitoring data flows among the pipelined elements and parsing a print data stream into local data portions related to individual pages and global state data portions related to characteristics shared across a plurality of pages (col. 4, lines 52-62), said sequencer packaging together parsed page local and global state data portions (col. 4, lines 34-40); said raster image

processors processing in parallel packaged parsed page data related to a plurality of pages (col. 2, lines 9-20).

The instruction operator is considered to be directly connected to the raster image processors because the output provides a physical transmission line to the inputs of the raster image processors. Whether, the transmission line is routed through the distributor, the wiring still provides a physical path to the raster image processors. In the same way, a computer can be considered directly connected to the internet although it may be routed through a modem or a device may be directly connected to a power source even if the power is routed through transistors. Further, since it has been held that omission of an element and its function in a combination where the remaining elements perform the same functions as before involves only routine skill in the art and therefore would have been obvious to one having ordinary skill in the art at the time of the invention.

Barry '943 does not disclose expressly print head drivers.

Fujii '390 discloses a plurality of print head drivers, each of which controls the application of colorant to a sheet and has an input port receiving data signals; a rasterizer with an output port communicating with the input ports of said plurality of print head driver; and generating data signals to be communicated to said print head drivers (col. 6, lines 60-65).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing

so would have been to allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer.

Barry '943 does not disclose expressly wherein raster image processors can be connected and disconnected to the sequencer.

Motamed '050 discloses wherein the sequencer's said output port is connected to the raster image processors' said input ports (col. 4, lines 34-53, the scheduler 34 of Fig. 3 sends the original print instruction file to all of the processors), and wherein said raster image processors may be connected and disconnected to said sequencer output port, said sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors (col. 6, lines 46-59, the invention is intended for use in an environment that supports a hot pluggable interconnect. As such, additional RIPs may be added to the system while the system is in operation. The system recognizes such additional RIPs as they are added and assigns jobs to them (or receives requests for pages from them) without interruption in normal system operation).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to allow adding and removing RIPs dynamically to a print system. The motivation for doing so would have been to provide improvements in RIP architectures that increase processing speed and efficiency. Each individual print head driver corresponds to a separate color of the printer. Therefore, it would have been obvious to combine Fujii '390 and Motamed '050 with Barry '943 to obtain the invention as specified in claim 1.

Referring to **claim 3**, Fujii '390 discloses wherein each of said raster image processors converts data from a form communicated as a print data stream to a form to be communicated as data signals to a print head driver (col. 6, lines 60-65).

Referring to **claim 12**, Motamed '050 discloses wherein the configuration of said pipeline of elements is changed responsive to additions and removals of connected and disconnected said raster image processors (col. 6, lines 46-59, the invention is intended for use in an environment that supports a hot pluggable interconnect. As such, additional RIPs may be added to the system while the system is in operation. The system recognizes such additional RIPs as they are added and assigns jobs to them (or receives requests for pages from them) without interruption in normal system operation).

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry Patent 6,825,943, Fujii Patent 6,315,390 and Motamed Patent 6,327,050 as applied to claim 1 above, and further in view of Venkateswar 6,532,016.

Referring to **claim 2**, Barry '943 and Fujii '390 discloses rasterizing images and generating data signals communicated to a print head driver, but does not disclose expressly a raster queue. Venkateswar '016 discloses queuing packaged individual page data to be communicated to said raster image processors and further wherein individual ones of said raster image processors draw from said queued data as processing of data related to an individual page is completed (col. 2, lines 21-28).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to queue data designated for a plurality of rasterizers. The motivation for doing so would have been to increase the speed of image rasterization by preparing images designated for rasterization before the rasterizer requests new data. Therefore, it would have been obvious to combine Venkateswar '016 with Barry '943 to obtain the invention as specified in claim 2.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barry Patent 6,825,943, Fujii Patent 6,315,390 and Motamed Patent 6,327,050 as applied to claim 3 above, and further in view of Hohensee 5,946,460.

Referring to **claim 4**, Barry '943 discloses raster image processors but does not disclose expressly converting into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored.

Hohensee '460 discloses each of said raster image processors converts data from a form communicated as a print data stream into a variable number of portions depending upon whether an individual page is to be blank or to be printed with a single color or to be printed with multiple colors (col. 4, lines 53-60).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize a rasterizer to convert into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. The motivation for doing so would have been to produce a separate bitmap for each color of

ink required to print the page. Therefore, it would have been obvious to combine Hohensee '460 with Barry '943 to obtain the invention as specified in claim 4.

9. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry Patent 6,825,943 in view of Fujii Patent 6,315,390, Hohensee 5,946,460 and Motamed Patent 6,327,050.

Referring to **claim 5**, Barry '943 discloses an apparatus comprising:

a pipeline of elements connected between a printer server and a printer and processing print control data from said print server, and said pipeline of elements having:

a plurality of raster image processors, each of which has an input port receiving parsed page data (Rip engines 150, 152, and 154 of Fig. 1b, col. 1, lines 41-50); and

a sequencer (instruction operator for job file 114 of Fig. 1a) which has an output port networked and communicating with the input ports of said plurality of raster image processors (col. 4, lines 34-40) and an input port receiving a print data stream (col. 3, lines 19-22), said sequencer monitoring data flows among the pipelined elements and parsing a print data stream into local data portions related to individual pages and global state data portions related to characteristics shared across a plurality of pages (col. 4, lines 52-62), said sequencer packaging together parsed page local and global state data portions (col. 4, lines 34-40); said raster image processors processing in parallel packaged parsed page data related to a plurality of pages (col. 2, lines 9-20).

Barry '943 does not disclose expressly a plurality of head drivers.

Fujii '390 discloses a plurality of print head drivers, each of which controls the application of colorant to a sheet and has an input port receiving data signals; a rasterizer with an output port communicating with the input ports of said plurality of print head driver; and generating data signals to be communicated to said print head drivers (col. 6, lines 60-65).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer.

Barry '943 does not disclose expressly converting into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored.

Hohensee '460 discloses each of said raster image processors converts data from a form communicated as a print data stream into a variable number of portions depending upon whether an individual page is to be blank or be printed with a single color or to be printed with multiple colors (col. 4, lines 53-60).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to utilize a rasterizer to convert into a variable number of portions depending on whether a page is to be blank, single colored, or multiple colored. The motivation for doing so would have been to produce a separate bitmap for each color of ink required to print the page.

Barry '943 does not disclose expressly wherein raster image processors can be connected and disconnected to the sequencer.

Motamed '050 discloses wherein the sequencer's said output port is connected to the raster image processors' said input ports (col. 4, lines 34-53, the scheduler 34 of Fig. 3 sends the original print instruction file to all of the processors), and wherein said raster image processors may be connected and disconnected to said sequencer output port, said sequencer remaining unchanged by additions and removals of connected and disconnected said raster image processors (col. 6, lines 46-59, the invention is intended for use in an environment that supports a hot pluggable interconnect. As such, additional RIPs may be added to the system while the system is in operation. The system recognizes such additional RIPs as they are added and assigns jobs to them (or receives requests for pages from them) without interruption in normal system operation)

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to allow adding and removing RIPs dynamically to a print system. The motivation for doing so would have been to provide improvements in RIP architectures that increase processing speed and efficiency. Each individual print head driver corresponds to a separate color of the printer. Therefore, it would have been obvious to combine Fujii '390, Hohensee '460 and Motamed '050 with Barry '943 to obtain the invention as specified in claim 5.

Referring to **claim 13**, Motamed '050 discloses wherein the configuration of said pipeline of elements is changed responsive to additions and removals of connected and disconnected said raster image processors (col. 6, lines 46-59, the invention is intended for use in an environment that supports a hot pluggable interconnect. As such, additional RIPs may be added to the system while the system is in operation. The

system recognizes such additional RIPs as they are added and assigns jobs to them (or receives requests for pages from them) without interruption in normal system operation).

10. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barry Patent 6,825,943 in view of Fujii Patent 6,315,390, Venkateswar 6,532,016 and Motamed Patent 6,327,050.

Referring to **claims 6 and 9**, Barry '943 discloses a method comprising the steps of:

receiving a print data stream from a print server and parsing the stream into local (col. 4, lines 34-38) and global portions (col. 4, lines 26-30); packaging together parsed local and global print stream data portions (col. 5, lines 8-13).

Barry '943 does not disclose expressly a raster queue.

Venkateswar '016 discloses queuing packaged print stream data portions; and communicating queued packaged print stream data portions directly to a plurality of raster image processors (col. 2, lines 21-28).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to queue data designated for a plurality of rasterizers. The motivation for doing so would have been to increase the speed of image rasterization by preparing images designated for rasterization before the rasterizer requests new data.

Barry '943 discloses processing a plurality of communicated packaged print stream data portions in parallel but does not disclose expressly a plurality of head drivers.

Fujii '390 discloses generating print head driving data signals; and communicating the generated print head driving data signals to a printer and to the print heads of said printer (col. 6, lines 60-65).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to process rasterized data for print head drivers. The motivation for doing so would have been allow driving a plurality of ink jet nozzles to form an image. Each individual print head driver corresponds to a separate color of the printer.

Barry '943 does not disclose expressly wherein raster image processors can be connected and disconnected to the sequencer.

Motamed '050 discloses changing the number of raster image processors in a pipeline of elements including a sequencer, said raster image processors and print head drivers, wherein said sequencer remains unchanged by additions and removals of connected and disconnected said raster image processors (col. 6, lines 46-59, the invention is intended for use in an environment that supports a hot pluggable interconnect. As such, additional RIPs may be added to the system while the system is in operation. The system recognizes such additional RIPs as they are added and assigns jobs to them (or receives requests for pages from them) without interruption in normal system operation)

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to allow adding and removing RIPs dynamically to a print system. The motivation for doing so would have been to provide improvements in RIP architectures that increase processing speed and efficiency. Each individual print head driver corresponds to a separate color of the printer. Therefore, it would have been obvious to combine Fujii '390, Venkateswar '016 and Motamed '050 with Barry '943 to obtain the invention as specified in claims 6 and 9.

Referring to **claim 7**, Barry '943 discloses wherein said step of packaging print stream data portions comprises packaging portions applicable to individual pages (col. 7, lines 34-36).

Referring to **claim 8**, Barry '943 discloses wherein said step of processing comprises generating bit map data signals (col. 10, lines 59-60).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter K. Huntsinger whose telephone number is (571)272-7435. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on (571)-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Peter K. Huntsinger/
Examiner, Art Unit 2625

/David K Moore/
Supervisory Patent Examiner, Art Unit 2625